

Round 1 Solicitation Technical Issues

CCPI Round 2 Planning Workshop

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Commercial Demonstration

- **Some applications did not propose a commercial demonstration.**
 - Some projects were slip stream evaluations of developing technologies.
 - Some projects were long-term R&D projects with little more than a concept proposed, which would progress through small scale, pilot scale, and finally commercial scale demonstration under proposed program.

- **Successful applications propose a technology that has a sufficient data base to support its readiness for commercial demonstration.**
- **Projects should be of sufficient scale to demonstrate commercial operation and viability.**



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Technology Advancement

- It was not clear how some proposed projects offered **significant advancement** over current state-of-the-art.
 - Some proposed technology was not compared directly with commercial technology for cost and performance.
 - Some proposed technology appeared to be an alternative method with no clear advancement, or a technology that addressed a site specific problem.

- Successful applications clearly compare technology advancements with current state-of-the-art, which is represented by commercial technology as well as successfully completed demonstrations (CCT).
- Advancements should offer potential for wide commercial deployment following demonstration.



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Discuss Project Concept

- Some applications were conceptual in nature, much **detailed information** was missing, such as:
 - flow diagrams,
 - energy and material balances,
 - temperatures, pressures, compositions of major streams,
 - and process chemistry and engineering concepts.
 - Some literature reviews did not characterize state-of-the-art, or provide added insight to proposed commercial demonstration.

- Successful applications provide detailed technical information sufficient to allow a complete understanding of process or technology being proposed for commercial demonstration.



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Low Cost

- **Many** applications proposed technology that was claimed to be **low cost**.
 - However, low cost was often not justified through detailed comparison with commercial technology. Arguments for low cost were often not substantiated.
 - Some applications did not justify low cost claims in technical volume, but referred instead to cost volume, which is a “project cost” as opposed to a technology cost.

- **Successful applications provide detailed explanations and quantitative comparisons to commercial technology to substantiate low cost claims.**



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Provide Data

- Many applications lacked **sufficient data**, and data was often presented without context.
 - Technologies lacking data are not ready for commercial demonstration.
 - Laboratory data is generally insufficient to support commercial demonstration.
 - Data was often presented without comparison to commercial technology performance, without reference to parametric studies, and without statistical evaluation.
- **Successful applications provide parametric studies showing process performance, data from pilot scale to support commercial demonstration, and data to support advancements over commercial technology.**



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Project Site (1)

- **Some applications failed to provide adequate site definition and documentation.**
 - Some applications did not identify specific sites, that is, California is not a site.
 - Some applications failed to provide evidence of a business relationship with proposed host site.
 - Some applications proposed multiple potential sites without proposing a primary site. This is viewed as a weakness, that is, project is not clearly defined.
 - Some applications failed to document comparable level of information for alternate sites as for primary sites.
 - Some applications did not clearly document access to coal infrastructure, power transmission, water, permits, etc.



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Project Site (2)

- **Successful applications document quality of proposed site.**
 - A site is:
 - An existing power generation facility (or other facility as appropriate).
 - A parcel of land whose ownership can be clearly identified and is suitable for building proposed project.
 - A site is available as demonstrated by ownership, a signed lease, option to buy, or a letter of participation from owner.
 - A primary and suitable site is well characterized, and all potential alternate sites are equally well characterized.
 - A site has access to all necessary infrastructure.



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Statement of Work

- Some **Statements of Work** (also called Statements of Project Objectives) did not clearly state what work was to be performed under project.
 - Some Statements of Work were brief, with insufficient detail in task structure.
 - Some Statements of Work contained too much explanation of process.
 - Milestones, decision points, and intermediate goals were also lacking.

- Successful applications include a Statement of Work that clearly describes work to be performed at WBS Level 3, (Task 4.2.1) including decision points.



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Test Plans

- **Test Plans** were virtually non-existent in group of applications received.
 - Many applications did not include a description of parametric testing for system optimization.
 - Many applications took “build it and run it” approach.

- Successful applications include a plan for operation over a range of conditions, including coal types.
- Parametric testing to optimize demonstration plant performance and to show applicability beyond specific site is desirable.
- DOE will clarify expectations regarding test plan requirements.



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Project Definition Phase

- Some applicants misunderstood **Project Definition Phase (PDP)**, which is for finalizing certain activities.
 - PDP is not appropriate for many projects of modest scope and complexity.
 - Financing, NEPA, and Permitting activities may be included in PDP.
 - All subsystem choices and a detailed schedule to allow accurate cost estimating should be finalized in a PDP.

- Successful applications fully address all aspects of project, although some items may include a degree of uncertainty.
- PDP allows for finalization of these items to achieve project financing.
- DOE will further clarify PDP in Round 2 Solicitation.



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Project Specific Development Activities

- Some applicants misunderstood **Project Specific Development Activities (PSDAs)**. This is not an opportunity to perform basic R&D.
 - PSDAs are performed at existing facilities.
 - PSDAs include design verification, materials selection, performance definition, and evaluation of alternative design features.
 - PSDAs are limited to 10% of DOE funding.
- Successful applications propose technology that is ready for commercial demonstration with only minor issues to be resolved through PSDA.
 - DOE will further clarify PSDA in Round 2 Solicitation.

